

The pollution of the ocean through climate change and man made pollution is a widespread issue that is taught to many people yet most of what children and people in general are taught is a very small part of the real issues we face. I will be covering the basics and in depth domino effect that the ever warming oceans have on our planet and how it affects everyone no matter who you may be.

The rising amounts of greenhouse gases that are trapped in the earth's atmosphere are causing the earth to act as a greenhouse, trapping in heat and in the planet's case it's more heat than it's ever needed in history and it keeps rising due to the constant output of carbon emissions. Since "Earth is often called the 'Goldilocks' planet – its conditions are just right, not too hot or too cold, allowing life to thrive." – [10] Since it maintains a balanced temperature through natural greenhouse gases the excess we are creating through our expanding evolution of technology and burning of fossil fuels starting with the industrial revolution we have released a mass amount of carbon dioxide since then and haven't stopped we have tipped the scale in favour of blanketing the planet in a thick layer of pollution that has trapped more heat inside the earth and stopped it from escaping, the earth does naturally cycle out and clean most of its greenhouse gases but that is the natural greenhouse gases and one of it's natural filters is our oceans which absorb a mass amount of heat along with absorbing whatever is in the atmosphere. As an example of how the ocean acts as a filter for greenhouse gases "The ocean is storing an estimated 91 percent of the excess heat energy trapped in the Earth's climate system by excess greenhouse gases." – [9] and since it does this we need to help it recover since if we heat up the ocean even a little bit the echo system will start to shift in a bad direction.

One big example of how climate change can cause a massive shift in the oceans is coral bleaching, when the temperature rises "the coral stresses out and expels the algae." – [3] the algae is what gives corals their colour and are part of the corals ecosystem, if the corals expel them it will cause the colour to lose its colour and die off. If the coral dies off all the sea life that rely on the coral reefs as homes, breeding grounds and hunting grounds start to search for colder water where coral may be changing the ecosystem of the ocean with many dying off due to the lack of biodiversity and break in the food chain. Some species of coral are considered keystone species and keystone species are cornerstones of an echo system that keeps it together and without it the echo system will suffer.

The ice melting is one of the biggest problems we face due to the rising sea levels. If the sea continues to grow the coast will start to be devoured by the ocean and sea front properties will start to go underwater slowly over time meaning less land for people and animals.

“When sea ice melts, it doesn't add volume to the ocean, but it does add freshwater, locally decreasing the saltiness of the sea. Saltiness and temperature are the drivers of ocean currents that move heat and nutrients around the world. Melting sea ice and rising temperatures can disrupt these currents, not only affecting wildlife that depends on them but also, potentially, local climates.” – [6] This can mess with the oceans of different countries such as the UK which will not just affect the currents but also the climate as it is starting to “result in more storms battering the UK, more intense winters and an increase in damaging heatwaves and droughts across Europe.” – [15]

Due to the melting ice “species such as the polar bear will also take a hit. In addition to a loss of habitat, the bears are facing a greater risk of starvation and drowning as they are forced to travel further to find sea ice from which they can hunt for seals. But it is also making it harder for them to find mates.” – [16] This is a problem since predators in an ecosystem are needed to clean up the bodies and pick off the sick so illness doesn't run rampant in a prey species so the loss of a predator in an ecosystem can cause a knock on effect and damage prey species as much as it damages predators.

The heating of the ocean means a mass loss of sea life “A warming of 1.5°C threatens to destroy 70 to 90 percent of coral reefs, and a 2°C increase means a nearly 100 percent loss – a point of no return.” – [5] and with such a major loss of coral causing a domino effect people who rely on fishing and trapping sea life for food and as a jobs since “The UN estimates there are about 35 million people directly employed in fishing, which translates to about 120 million including their households and 500 million – or about 8% of global population – taking into account indirect businesses such as packaging, freezing and transport.” which means millions of jobs are at risk if sea life is lost due to loss of coral and ever warming oceans.

We can only slow down climate change through limiting our usage of fossil fuels and switching to renewable energy such as tidal, solar, and wind that will not spit out carbon dioxide since the more fossil fuels we use will add to the blanket of carbon dioxide which will just speed up the degradation of our oceans. There is no way to stop instantly but we can slow it down until everything can heal itself since if we let the ocean die it will have a knock on effect on everything on earth.

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Poster:

**THE HEATING OF THE OCEAN
MEANS A MASS LOSS OF SEA LIFE**

**MILLIONS OF JOBS ARE AT RISK IF SEA LIFE IS
LOST DUE TO LOSS OF CORAL AND EVER WARMING**

**A WARMING OF 1.5°C THREATENS TO DESTROY 70
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